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Comparisons were made between African-American women with and without a family history of breast cancer with respect to mammography screening, attitudes towards mammography screening and perceptions of risk and concerns about breast cancer. Screening behavior was similar among both groups with compliance with recent screening exceeding 55%. Women with rather than without a family history expressed less positive and more negative attitudes towards mammography, although both had similarly positive global attitudes towards having mammograms. Attitudes were poor correlates of screening intentions and behaviors. Women with a family history reported higher perceived risk and were more concerned about getting breast cancer than women without a family history. While greater knowledge of breast cancer risk factors predicted heightened risk and concerns about getting breast cancer, overall knowledge was poor. Perceived risk was negatively related to being on schedule and with future intentions to have a mammogram. Women with a family history expressed a greater desire to be tested for breast cancer than women without a family history.

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Introduction

Compared to white women, there is a dearth of information about the screening practices, beliefs, and psychosocial interventions targeting African-American women, especially those with a family history of breast cancer. Although white women have higher incidence rates of breast cancer than African-American women especially above the age of 50, African-American women have higher mortality rates resulting from the disease (1). For example, after controlling for stage of disease, geographic location, comorbid conditions and sociodemographic characteristics (e.g., age, marital, status), African-American women are almost twice as likely to die from breast cancer than white women (2).

Detection of breast cancer through mammography screening offers hope for decreasing mortality rates from breast cancer among this population. However, trends in screening show that African-Americans adhere poorly to recommended screening practices. For example, data from the 1992 National Health Interview have found that while 64% of African-American women have ever had a mammogram, only 32% have had regular screening mammograms (3). Of import, these population statistics do not address the screening practices of specific high risk groups such as African-American women with a family history of breast cancer. Indeed, there is a lack of information explicitly exploring the mammography screening history of African-American women with a family history of breast cancer. What little is known suggests that these women are less likely to adhere to recommended mammogram screening intervals compared to white women (4), and that they rely more strongly on clinical and self-breast exams than mammography as detection methods despite their decreased effectiveness (4). Unfortunately, the ability to generalize these results has been limited due to the small sample sizes ($N \leq 60$). Thus, one of the objectives of this proposal was to report on the mammography screening history of African-American women with and without a family history of breast cancer.

A second goal of the proposal was to assess and compare risk perceptions among African-American women with and without a family history of breast cancer, and also to examine how these risk perceptions affect intentions to get a mammogram. Poor adherence to mammography screening may in part be the result of lack of knowledge about the risk factors for breast cancer and/or low levels of perceived risk of getting breast cancer. Indeed several models of health behavior such as the Health Belief Model, Protection Motivation Theory, and the Precaution Adoption Model suggest that heightened perceptions of risk should facilitate behavior change including mammography screening (5-8). Indeed, a recent meta-analysis of the extant literature supports a positive relationship between perceived risk and mammography screening (9).

The extant literature suggests that African-American women are less likely than white women to recognize family history as a risk factor for breast cancer, even among African-American women with a family history (10). This lack of knowledge is consistent with the lower level of knowledge that African-Americans, especially the poor, have of cancer risk (11-14). These results suggest that preliminary interventions should at least provide educational materials that alert African-American women of the risk factors for breast cancer, which may be quite effective among African-American women with a family history (15), while highlighting the effectiveness of mammograms. The present study examined these issues and assessed the effectiveness of the intervention using the

Transtheoretical Model of behavioral change. A brief overview of the Transtheoretical model follows.

The Transtheoretical Model

The Transtheoretical model (16) suggests that behavioral change occurs in a sequence of stages. The primary stages are precontemplation, contemplation, action, and maintenance. Precontemplators are not considering changing their behavior; contemplators are considering changing their behavior; people in action have initiated behavior change, and those in maintenance have maintained the behavioral change over a specified duration. Therefore, people in different stages of change exhibit different patterns of beliefs, feelings and behaviors across stages but show similar patterns of beliefs, feelings and behaviors within a stage.

Movement across stages is mediated partly by a person's views of the pros and cons of changing the behavior (17). The pros represent the potential benefits of change, while the cons represent the disadvantages of change. The overall weighing of the pros and cons is called decisional balance. Studies reveal that the weighing of the pros and cons differ across stages. In a review of 12 different health behaviors, the cons outweigh the pros for people in the precontemplation stage; an increase in the pros marks a change from precontemplation to contemplation, and a change from contemplation to action involves a decrease in cons (18). The important implications of these findings are that: 1) interventions aimed at moving people from precontemplation to contemplation should stress the pros of changing the behavior, and 2) movement from contemplation to action should emphasize decreasing the cons for change. Thus, an aim of this study was not only to describe mammography screening patterns via stages of change, but also to assess whether modifying the pros and cons of change via the use of message framing affects movement across different stages as described above.

Message Framing

Efforts to motivate people to follow recommended health practices have at times presented factually equivalent information as gains or losses (19-21). Gain messages stress the potential benefits or advantages of following a recommended action; loss messages emphasize the risks or disadvantages of not following a recommended action. The framing of messages as gain or loss has a differential impact based on a psychological reference point. Based on prospect theory (22), people tend to be risk averse when it comes to gains but are risk seeking when it comes to losses. That is, people prefer not to gamble when they have a sure win (i.e., gain), but prefer to take a risk to prevent the possibility of a loss. Hence, loss-framed rather than gain-framed messages should be more effective for persuading people to adopt a change in health behaviors that are perceived as risky (22). From this perspective, mammography screening can be considered a risky behavior since there is the possibility of finding cancer; therefore loss messages should affect breast cancer screening behaviors more so than gain messages. Indeed, this is what the extant literature shows (19,23). Moreover, loss messages should be particularly effective in persuading women who are at high risk (e.g., African-American women with a family history) or perceive themselves at high risk, since psychologically they perceive themselves as having more to lose from not getting a screening mammogram. With respect to stages of change, gain messages should be more influential in moving women from precontemplation to

contemplation, while loss messages should be more powerful in moving women from contemplation to action. The present study tested these predictions with respect to message framing and perceived risk, and message-framing and stages of change.

Method

Participants: As of 8/22/97, a total of 136 African-American women with a family history of breast cancer, and 132 African-American women without a family history (i.e., controls) have been recruited into the study at baseline. Women with a family history were recruited by first contacting all African-American women with breast cancer based on information provided by Duke University Medical Center's Tumor Registry. A total of 91 breast cancer patients were contacted, of which 90% provided consent to contact their first-degree relatives (mothers, sisters, and daughters). Controls were obtained from a sampling frame of all African-American women who visited the Duke Radiology Department within the last 3 1/2 years (Approximately 5500 patients). To obtain comparability between groups, controls were matched with women with a family history based first on age (within ± 6 months), and then mammography history (± 3 months of most recent mammogram). Based on this procedure, 119 successful matches were made on age including 79 matches on both age and screening history: Only 13 women with a family history of breast cancer could not be matched with a control. Overall, 86% (136 out of 158) of women with a family history agreed to participate – 15 refusals and 7 who could not be reached. Among controls, 58% (132 out of a possible 226 contacts) agreed to participate. Specifically, out of the 226 possible contacts, 46 were refusals and 48 could not participate for other reasons. Among the latter group, 33 could not be reached due to incorrect phone numbers/no responses, 15 could not participate due to other reasons (5 for health reasons, 3 had breast cancer, 5 incorrectly coded as African-American, 1 was incorrectly coded a female in the Radiology database, 1 was deceased). Among those who were contacted (N = 178), 74% agreed to participate. The demographic characteristics associated with study participants are presented in Table 1.

Procedure: Study participants were mailed a cover letter to their place of residence describing the study. They where contacted by a trained telephone interviewer from the Duke Risk Communications Laboratory (RCL) within two weeks of the mail out. Participants reached were reminded of the purpose of the study, and those who agreed to participate took part in a 15 minute baseline interview – data were collected using a computerized telephone interviewing system (CATI). The interview consisted of obtaining information about the participant's: 1) mammography screening history, 2) intentions to have a mammogram within a specified time interval (e.g., next 3 months for women who were off-schedule, or within a year or one to two years for women who were on schedule and either at or above age 50 or below age 50, respectively), 3) pros and cons of mammography screening (i.e. decisional balance, 24), 4) knowledge of risk factors for breast cancer, 5) perceived risk of and worries about getting breast cancer, 6) attributions for their perceived risk of breast cancer, 7) interest in genetic testing for breast cancer risk, 8) psychological well-being, and 9) demographics. A copy of the baseline questionnaire is provided in Appendix A. Baseline interviews were first conducted with women with a

family history, and then controls were called after being matched by age and secondarily with screening history. Participants were paid $10.00 for their baseline interview.

After responding to all questions, participants were reminded that they would get a brochure in the mail within three months that discusses breast cancer and mammography screening. They were asked to read the brochure, and informed that a second telephone interview would occur about two weeks after getting the brochure, in order to obtain their impressions of the material.

Approximately three months after the baseline interview, participants were stratified by age (below 50, and 50 and older) and randomized to receive one of three different brochures that differed only by whether they contained a gain, loss, or no message framing message (i.e., control). Thus, an approximately equal number of women below and above age 50 received a gain, loss, or no framing message. Women without a family history received the same brochure as their matched counterpart. All brochures emphasized the risks of getting breast cancer, the major risk factors (e.g., age, family history), the efficacy of mammography screening, and recommended screening guidelines. A copy of each brochure is provided in Appendix B. Along with the brochure, was a letter informing women that they would be called within two weeks to get their impressions of the material.

Approximately two weeks after sending the brochures, participants were called by a trained telephone interviewer from the RCL. Participants were first queried as to whether they received the brochure. If not, they were sent a duplicate brochure –a maximum of two brochures per person. Those who acknowledged receipt of the brochure participated in a 15 minute interview. The questionnaire basically repeated the same questions posed during the baseline interview, along with questions about participants' opinions of the brochure. A copy of the 3 month follow-up questionnaire is presented in Appendix C.

Lastly, participants were called 4 months after receiving the brochure for a final follow-up interview. This interview reassessed screening history and intentions to get a mammogram, pros and cons of screening, perceived risk of and worries about breast cancer, knowledge and attitudes towards genetic testing for breast cancer, and psychological well-being. Participants were paid $10.00 for completing the final interview. The final questionnaire is presented in Appendix D.

<div align="center">Results</div>

Overview: The present analyses will report on the results of the baseline questionnaire. As of 8/22/97, there remain five more controls to be contacted and matched to women with a family history in order to complete all the baseline interviews. While all the women with a family history of breast have completed their second follow-up telephone interview -- 42 of these women also completed the final interview -- only 59 women without a family history completed the second round of interviews. Consequently, it would be premature at this point to report differences among these groups with enough power to assess the proximal effects of the message framing intervention. These results will be presented in the final report.

For this report, the baseline mammography screening history will be presented first. Discussion will then center on women's attitudes towards screening (e.g., pros and cons) and how these attitudes relate to screening. Results will then be presented about women's risk perceptions, worries about getting breast cancer, and how attribution about risk and

knowledge of risk factors are related to perceptions of risk and concerns about getting breast cancer. Data will then be presented concerning interests in genetic testing for breast cancer and factors that affect the desire to be tested. In these presentations, the specific question in the analyses will be provided by using the question number as it appears in the baseline questionnaire (see Appendix A). Since the demographic variables did not appreciably affect the main findings, they will not be discussed in this yearly report.

Screening History

Table 2 presents the screening history of women with and without a family history of breast cancer. Among women with a family history, 80% had ever had a screening mammogram – since controls were patients from the Duke Radiology Department, all had at least one screening mammogram. Moreover, women 40-49 without a family history were significantly more likely to be on schedule -- defined as having a mammogram within 1 to 2 years of the interview -- than women with a family history (94% vs. 67% respectively, $X_{(1)}^2 = 11.1$, p<.001). Similarly, women 50 and older without a family history had a greater tendency to be on schedule -- defined as having a mammogram within a year of the interview -- than women with a family history (71.4% vs. 55.4% respectively, $X_{(1)}^2 = 3.1$, p<.10).

Women both on and off schedule were asked if they were thinking and planning to have a future mammogram (Items 1.4a,b; 1.5a,b; 1.6a,b; 1.7a,b) as a measure of intentions. Since women responded identically to these questions, discussion will center on their thoughts of having a mammogram. Women 40 and older who were off schedule, were asked if they were thinking of having a mammogram within the next three months; women 40 – 49 who were on schedule were asked if they were thinking of having another mammogram within the next two years. Women 50 and older who were on schedule were asked whether they were thinking of having another mammogram within the next year. These results are presented in Table 2. In general, over 95% of women 40 and older who were on schedule were thinking of having another mammogram based on recommended time frame. Among those off schedule, women 40 – 49 with a family history were significantly more likely to think about having a mammogram within the next three months compared to women without a family history (86.7% vs. 33.3%, $X_{(1)}^2 = 11.3$, p<.003). However, there was a substantial percentage of women 50 and older off schedule in both groups who were thinking of having a mammogram within the next 3 months ($\leq$ 80%). Despite these high rates, very few women in both groups had a mammogram appointment scheduled ($\leq$ 10.4%).

To obtain an overall summary that incorporated previous screening history and intentions, women 40 and older were categorized into one of the following mammography stages of change according to the recommendations of Rakowski and colleagues (24, 25): precontemplators, contemplators, action, maintenance, relapse, and relapse risk. The algorithm to stage women is provided in Appendix E. The bottom of Table 2 presents the proportion of women in both group distributed across these stages of change. In general, the distribution of the women across these stages was similar except that more women without a family history were in the action and maintenance stages. However, these results can be potentially explained by the fact that women without a family history visited the Duke Radiology Department within the last 3 years.

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Attitudes towards Mammography Screening and Relationship to Stage of Change

Attitudes towards mammography were assessed primarily via the use of the pros and cons (questions 4.1 - 4.11), attitudinal ambivalence (item 4.12), perceived effectiveness of mammography at detecting breast cancer early (item 4.13), and a global question assessing participant's overall attitude towards having a mammogram (question 4.14). Table 3 presents the mean responses to these items comparing women with and without a family history of breast cancer.

With respect to the pros and cons, women without a family history reported greater positive and less negative consequences associated with mammography. Furthermore, women without a family history expressed less attitudinal ambivalence than women with a family history. However, both groups viewed mammography as similarly effective at detecting breast cancer early, and both groups expressed very favorable attitudes towards having mammograms.

It was of interest to assess whether these attitudinal variables predicted being on schedule and the intention to have a future mammogram. It was predicted that a greater number of pros, less cons, lower attitudinal ambivalence, viewing mammograms as effective, and having a more positive attitude towards mammography screening would be related to being on schedule and thinking of getting a mammogram in the future. To test these predictions, logistic regression analyses were conducted predicting these two outcomes from each attitudinal variable separately. The reference groups were the odds of being off schedule and not thinking of getting another mammogram. Overall none of the attitudinal variables predicted being on schedule. Similarly, only one of the attitudinal variables predicted thoughts about having a future mammogram. Women with more positive attitudes were less likely not to have thought about getting a future mammogram (OR = .72, p<.05).

In the next set of analyses, logistic regression analyses were used to predict stages of change from each attitudinal item separately -- since the proportional odds assumption was violated in most analyses, stages were dichotomized into maintenance, action, and relapse risk, which represented engagement in screening, versus precontemplation, contemplation and relapse, which represented a general failure to engage in screening. None of the attitudinal variables predicted the general failure to engage in screening, with the exception of the cons. Women with more cons were more likely not to have engaged in mammography screening (OR = 1.07, p < .05). This finding was upheld primarily among women with a family history of breast cancer (OR = 1.11, p<.04) but not among women without a family history (OR= 1, NS).

Perceived risk of and worries about getting breast cancer

It was expected that women with a family history would express greater comparative risk (i.e., own risk vs. women their age and sex; item 6.1) and lifetime risk (item 6.2), and more concerns (item 6.4) about getting breast cancer than women without a family history. It also was predicted that comparative risk, perceived lifetime risk and concerns about getting breast cancer would be positively related.

Overall these predictions were confirmed. Women with a family history felt greater comparative and lifetime risk than women without a family history ($M_{(comp)}$ = 3.39 vs. 2.73, p<.0001; $M_{(lifetime)}$ = 3.19 vs. 2.73, p<.002; for family history vs. control, respectively). Moreover, women with a family history felt more concerned about getting breast cancer

than women without a family history ($M_{(hist)}$ = 3.39 vs. $M_{(cont)}$ = 2.90, $p<.004$). In the total sample, women who expressed greater lifetime risk also reported greater comparative risk (r = .38, $p<.001$), and this positive relationship held for both groups of women ($r_{(hist)}$ = .40; $r_{(cont)}$ = .25, $ps< .007$). Furthermore, in both groups, women who expressed greater concerns about getting breast cancer reported greater lifetime ($r_{(hist)}$ = .21; $r_{(cont)}$ = .21, $ps< .05$) and comparative risk ($r_{(hist)}$ = .17; $r_{(cont)}$ = .27, $ps< .05$).

To understand further the underlying causes of women's own perceptions of lifetime risk, participants were asked why they rated their risk as they did (item 6.3). Responses were categorized into one of the categories used by Aiken and colleagues (26), based on Weinstein's (27) scheme: personal actions (e.g., diet, exercise), heredity (e.g., family history), physiological (e.g., age), environmental (e.g., chemicals in food), psychological (e.g., optimism), chance and other. These results are presented in Table 4 as a function of three levels of perceived risk: low, average, and high – note these results should be viewed as work-in-progress since there are a number of responses yet to be categorized.

Inspection of Table 4 reveals noticeable differences in the attributions women with and without a family history provide. Not too surprisingly, women with a family history mentioned primarily heredity, while those without a family history primarily mentioned personal actions. Specifically, having a family history contributed to average and high perceptions of risk, and the converse for those without a family history. When personal action causes were mentioned among women with low perceived risk, they usually referred to desirable health behavior (e.g., exercise, dieting, etc) as contributing to their low perceptions of risk. When personal action causes were mentioned among women in the high risk category, it usually referred to poor lifestyle habits (e.g., lack of exercise, smoking, poor diets, etc.). Furthermore, when physiological causes were mentioned among women with low perceived risk, it usually referred to either being too young or too old. No clear pattern emerged for the types of physiological causes that were related with high perceptions of risk. In sum, for both groups of women, family history of breast cancer and lifestyle factors were more clearly associated with perceptions of risk.

Two further sets of analyses were performed. The first set of analyses examined how knowledgeable women were of the various potential risk factors for breast cancer (items 5.1-5.9); the second set of analyses examined whether overall knowledge of risk factors predicted perceived risk and concerns about getting breast cancer. Table 5 presents how many women in each group correctly identified breast cancer risk factors. Inspection of this table shows that women in both groups most accurately identified family history as a risk factor. However, and of greater concern, less than half of women in both groups acknowledged increasing age as a risk factor. Similarly, only about a third of each group correctly believed that a breast injury does not increase the risk of breast cancer. Overall, the median number of correct answers was 3 out of 9, and there were no significant mean differences in the number of correct responses comparing both groups of women ($M_{(hist)}$ = 3.45 vs. $M_{(cont)}$ = 3.27, $t < 1$). Among women with a family history, greater knowledge was related to greater perceived comparative and absolute risk ($r_{(comp)}$ = .19, $r_{(abso)}$ = .29, $ps <.03$). Women with greater knowledge also expressed greater concerns about getting breast cancer (r = .20, $p<.002$), although this relationship held more strongly for women with than without a family history ($r_{(hist)}$ = .21, $p<.02$; $r_{(cont)}$ = .17, $p< .07$).

Finally, analyses were conducted to assess whether risk perceptions and concerns about getting breast cancer were related to being on schedule, intentions to have a future

mammogram, and stages of change. Logistic regression analyses were conducted predicting being on schedule; proportional odds regression analyses were used to predict stages of change. The regression analyses modeled the odds of being off schedule and reporting lack of intention to have a future mammogram. Overall, neither risk perceptions nor concerns about getting breast cancer predicted stages of change. However, in the total sample, women who viewed themselves at higher lifetime risk were more likely to not think about having a future mammogram (OR = 1.47, $p<.004$). Similarly, women with higher perceptions of lifetime risk were more likely to be off schedule than women with lower perceived risk (OR = 1.4, $p<.003$).

Predictors of genetic testing

With the growing advances and interests among women about genetic testing for breast cancer (e.g., BRCA1), for exploratory reasons, analyses were performed predicting interest in genetic testing among these two populations (item 6.4). A-priori it was expected that women with a family history would be most interested in genetic testing, and that women who reported greater comparative and absolute risk, as well as greater concerns about breast cancer, would be most interested in having genetic testing for breast cancer.

There was fair support for these predictions. As hypothesized, women with a family history were more interested in genetic testing than women without a family history (t =2.45, $p<.02$). Also consistent with predictions, women who were more concerned about getting breast cancer reported greater interest in genetic testing than those with fewer concerns (r =.25, p<.001), and this relationship held for women with a family history as well as those without ($r_{(hist)}$ = .24, $r_{(cont)}$ = .23, ps <.007). Comparative risk but not own perceived risk (i.e., absolute risk, r = .13, $p<.10$), was weakly related to women's desire to be tested (r = .14, $p<.03$), although the correlations were not significant in either group of women (.05 $\leq$ rs $\leq$ .16, NS). Education and age were unrelated to desire to get tested. In sum, it appears that affect (i.e., concerns) related more strongly to interest in being tested than beliefs about risk per se.

<div align="center">Conclusions</div>

The present report examined baseline data comparing African-American women with and without a family history of breast cancer with respect to mammography screening, attitudes towards mammography screening, perceptions of risk and concerns about breast cancer, and attitudes towards genetic testing for breast cancer. With respect to having a mammogram, there was generally good compliance with screening. For example, adherence to screening guidelines (i.e., being on schedule) was relatively high (e.g., over 55%) especially among women less than 50. These results compare favorably with national estimates of recent screening among African-Americans of 32% (3). However, as with other findings (28), the present results also suggest the need to further target women over 50 in order to enhance compliance with screening. The present study will allow us to track the screening behaviors of these women over the next 7-8 months.

Comparisons were made among these two populations concerning their attitudes towards mammography use. Quite unexpectedly, women with a family history had fewer pros, more cons and greater ambivalence towards having mammograms than did women without a family history. Although the reason(s) for these findings is (are) uncertain, it is possible that women with a family history may view having a mammogram as a potential

harbinger of bad news. That is, because of their perceived higher risk, they may believe that mammograms are more likely to detect having breast cancer, and thus bad news, than women without a family history. However, there were no significant differences in either group concerning the overall effectiveness of mammography or overall attitudes towards having mammograms. Of import, most of these measures were weak correlates of screening behavior. A goal of the project will be to assess whether these attitudes remain stable across the two groups, and whether attitudes may predict screening behaviors prospectively.

The most consistent and powerful set of findings emerged in the area of risk perceptions and concerns about getting breast cancer. Consistent with predictions, women with a family history of breast cancer reported greater comparative and absolute risk, and felt more concerned about getting breast cancer than women without a family history. Thus, this is the first study using a fairly large number of women with and without a family history, to document that risk perceptions and concerns about breast cancer do differ among these two populations. Of import, greater perceived lifetime risk was related negatively with thoughts of getting another mammogram. These results speak to the importance of risk as a potentially important variable in the causal chain leading to screening among this population of women. In particular, if among African-Americans heightened perceptions of risk do reduce screening behavior, then new conceptualizations of how this construct should be integrated into intervention design will be warranted. The present study will determine whether these risk perceptions ultimately predict future intentions and screening.

Further analyses concerning risk evaluated general knowledge of risk factors and the types of causal attributions that women provide to explain their risk perceptions. In general, women had poor working knowledge of breast cancer risk factors; indeed, the median number of correct responses was 3 out of 9. Among the various risk factors, less than half knew that getting older is related to heightened risk of breast cancer. Moreover, a substantial proportion of women in both groups believed incorrectly that stress and bruising of breast(s) are related to getting breast cancer. These results point to the need for continued efforts to educate women about the importance of age as a risk factor for breast cancer and to correct inaccuracies. Of import, women who had increasing knowledge of the risk factors for breast cancer reported greater perceived risk and worries about getting breast cancer. An important objective of this study is to assess whether the psychoeducational brochure will actually affect knowledge about breast cancer risk factors.

Lastly, and primarily for exploratory purposes, analyses were conducted to assess women's interest in genetic testing for breast cancer. Women with a family history expressed a greater desire for testing than did women without a family history. Of interest, it was women's emotional responses (e.g., concerns about getting breast cancer) more so than their perceived risk (i.e., cognitive response) that were more strongly related to interest in testing. These results suggest that risk and the emotional components surrounding perceived risk may have different causal pathways to affect interest in genetic testing in these two populations. Based on these initial results, a more in-depth analysis of these women's knowledge of and interest in genetic testing for breast cancer will be explored as part of the final telephone interview.

Progress with Study Objectives and the Importance of Continued Funding Support

The present study is making satisfactory progress towards achieving the proposed study objectives. First, with respect to sample size, the proposal projected a final sample of approximately 135 women per group. The current sample size closely approximates this goal. The collection of the follow-up telephone interviews, though slightly behind schedule, is now moving forward at a rapid pace. The Department of Defense was very kind in providing an additional $6,000 in funding to support needed time for telephone interviewers to contact study participants. This has helped tremendously! However, because of the slow start in reaching many of the study participants, the final telephone interview will occur four months rather than six months, as originally proposed, after receiving the intervention materials.

There are several goals that have yet to be achieved that could not occur without further financial support. First, the main objectives of this study, which are to assess whether message framing interacts with 1) stages of change and 2) risk perceptions to affect intentions to be screened and screening behavior, remains to be tested. The needed power to test the study predictions requires the gathering of all data points. To date, data for the second telephone interview have been collected on all women with a family history, but only with half of the women without a family history. It is expected that completion of the second interview will occur towards the end of November.

Another objective that needs to be fully actualized is whether the psychoeducational brochure that contains the gain/loss messages actually improves knowledge concerning the risk factors for breast cancer, which as these data suggest, is sorely needed. If successful, it will be possible to assess whether knowledge actually affects risk perceptions, concerns about getting breast cancer, and ultimately intentions and screening behavior. Furthermore, these preliminary findings suggest interesting attitudinal differences between women with and without a family history that awaits replication, and may have implications for screening behaviors. Finally, the present study will also contribute significantly to the growing literature on women's knowledge and interest in genetic testing for breast cancer by exploring these issues in two distinct yet rarely compared groups of women. As these preliminary data reveal, risk perceptions may not be the main driving force in predicting the desire for testing but rather the emotional issues surrounding perceived risk.

References

1. Dawson, D.A., & Thompson, G.B. (1990). Breast cancer risk factors and screening; United States, 1987, Vital and Health Statistics, series 10. Data from the National Health Interview Survey, No. 172, U.S., Department of Health and Human Services, DHHS Publication No. (PHS) 90-1500.

2. Eley, J.W., Hill, H.A., Chen, V.W., et al. (1994). Racial differences in the survival from breast cancer: Results of the National Cancer Institute black/white cancer survival study. Journal of the American Medical Association, 272, 947-954.

3. Breen, N., & Kessler, L. (1995). Trends in cancer screening: United States, 1987 and 1992. Morbidity and Mortality Weekly Report, 45, 57-61.

4. Lerman, C., Daly, M., Sands, C., Blashem, A., Lustbader, E., Heggan, T., Goldstein, L., James, J., & Engstrom, P. (1993). Mammography adherence and psychological distress among women at high risk for breast cancer. Journal of the National Cancer Institute, 85, 1074-1080.

5. Curry, S.J., & Emmons, K.M. (1994). Theoretical models for predicting and improving compliance with breast cancer screening. Annals of Behavioral Medicine, 16, 302-316.

6. Janz, N.K., & Becker, M.H. (1984). The health belief model: A decade later. Health Education Quarterly, 11, 1-147.

7. Rogers, R.W. (1983). Cognitive and Physiological processes in fear appeals and attitude change: A revised theory of protection motivation. In J.T. Cacioppo and R.E. Petty (Eds.), Social Psychophysiology. New York: Guilford Press.

8. Weinstein, N. (1988). The precaution adoption process. Health Psychology, 7, 355-386.

9. McCaul, K.D., Branstetter, A,D., Schroeder, D.M., & Glasgow, R.E. (1996). What is the relationship between breast cancer risk and mammography screening? A meta-analytic review. Health Psychology, 15, 423-429.

10. Royak-Schaler, R., DeVellis, B.M., Sorenson, J.R., Wilson, K.R., Lannin, D.R., & Emerson, J.A. (1995). Breast cancer in African-American families, risk perceptions, cancer worry, and screening practices of first-degree relatives. Annals of the New York Academy of Sciences, 768, 281-285.

11. Cardwell, J., & Collier, W. (1981). Racial differences in cancer awareness: What black Americans need to know about cancer. Urban Health, 10, 29-32.

12. Evaxx (1980). Black-American attitudes towards cancer and cancer tests: highlights of a study. CA, 31, 212-218.

13. Lacey, L. (1993). Cancer prevention and early detection strategies for reaching underserved urban, low-income black women. Cancer, 72, 1078-1083.

14. Michielutte, R., & Diseker, R. (1982). Racial differences in knowledge of breast cancer. Social Science and Medicine, 16, 245-252.

15. Lerman, Lustbader, Rimer, Daly et al. (1995). Effects of individualized breast cancer risk counseling: A randomized trial. Journal of the National Cancer Institute, 87, 286-292.

16. Prochaska, J.O., & DiClemente, C.C. (1984). The transtheoretical approach: Crossing traditional boundaries of therapy. Chicago: Dow Jones/Irwin.

17. Prochaska, J.O., & DiClemente, C.C. (1983). Stages and processes of self-change of smoking: Towards an integrative model of change. <u>Journal of Consulting and Clinical Psychology</u>, <u>5</u>, 390-395.

18. Prochaska, J.O., Velicer, W.F., Rossi, J.S., Goldstein, M.G., Marcus, B.S., Rakowski, W., Fiore, C., Harlow, L.L., Redding, C.A., Rosenbloom, D., & Rossi, S.R. (1994). Stages of change and decisional balance for 12 problem behaviors. <u>Health Psychology</u>, <u>13</u>, 39-46.

19. Banks, S.M., Salovey, P., Greener, S., Rothman, A.L., Moye, A., Beauvais, J., & Epel, E. (1995). The effects of message framing on mammography utilization. <u>Health Psychology</u>, <u>14</u>, 178-184.

20. Lalor, K.M., & Hailey, B.J (1989-1990). The effects of message framing and feelings of susceptibility to breast cancer on reported frequency of breast self-examination. <u>International Quarterly of Community Health Education</u>, <u>10</u>, 183-192.

21. Lerman, C., Ross, E., Boyce, A., et al. (1992). The impact of mailing psychoeducational materials to women with abnormal mammograms. <u>American Journal of Public Health</u>, <u>82</u>, 1-2.

22. Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. <u>Econometrica</u>, <u>47</u>, 263-291.

23. Meyerowitz, B.E., Wilson, D.K., & Chaiken, S. (1991, June). Loss-framed messages increase breast self-examination for women who perceive risk. Paper presented at the third annual convention of the American Psychological Association, Washington, D.C.

24. Rakowski, W., Dube, C.E., Marcus, B.H., Prochaska, J.O., Velicer, W.F., & Abrams, D.B. (1992). Assessing elements of women's decisions about mammography. <u>Health Psychology</u>, <u>11</u>, 111-118.

25. Rakowski, W., Fulton, J.P., & Feldman, J.P. (1993). Women's decisions making about mammography: A replication of the relationship between stages of adoption and decisional balance. <u>Health Psychology</u>, <u>12</u>, 209-214.

26. Aiken, L.S., Fenaughty, A.M., West, S.G., Johnson, J.J., & Luckett, T.L. (1995). Perceived determinants of risk for breast cancer and the relations among objective risk, perceived risk, and screening behavior over time. <u>Women's Health Research, Gender, and Behavioral Policy</u>, <u>1</u>, 27-50.

27. Weinstein, N. (1984). Why it won't happen to me: Perceptions of risk factors and susceptibility. <u>Health Psychology</u>, <u>3</u>, 431-457.

28. Rimer, B.K., Ross, E., Cristinzio, S., & King, E. (1994). Older women's participation in breast screening. <u>Journal of Gerontology</u>, <u>47</u>, 85-91.

Table 1

Study population characteristics.

Characteristic	Controls		Family history	
	N	%	N	%
Age				
< 40	25	19.1	34	25.4
40 – 49	48	36.6	45	33.6
50 ≥	58	44.3	55	41.0
Education				
High school or less	47	35.9	43	32.1
Trade or technical school	19	14.5	12	9.0
Some college	31	23.7	41	30.6
College graduate	19	14.5	18	13.4
Graduate work or degree	14	10.7	20	14.9
Marital Status				
Single	25	19.1	25	18.7
Married or living as married	67	51.1	58	43.3
Widowed	11	8.4	20	14.9
Divorced	20	15.3	24	17.9
Separated	8	6.1	7	5.2
Work status				
Working full-time	75	57.2	73	54.5
Working part-time	8	6.1	18	13.4
Full-time homemaker	5	3.8	7	5.2
Retired	26	19.8	22	16.4
Unemployed	3	2.3	4	3.0
Other	14	10.7	10	7.5
Has insurance coverage	113	86.2	129	96.3

Note.   As expected, there were no significant differences in mean age between the controls and women with a family history ($M_{(cont)}$ = 51.2 vs. $M_{(hist)}$ = 49.2, t = 1.2, ns); thus the matching based on age was deemed successful.

Table 2

Mammography screening history among women with and without a family history of breast cancer.

Screening Variable	Family History N	Family History %	Controls N	Controls %
Ever had a mammogram	108	80.6	131	100
On schedule[a]				
Women 40 – 49	31	67.4	47	94.0
Women 50 >	31	55.4	40	71.4
Thinking of having a future mammogram Among women on schedule[b]				
Women 40 – 49	31	100	48	100
Women 50 >	30	96.8	39	97.5
Thinking of having a future mammogram Among women not on schedule[c]				
Women 40 – 49	13	86.7	1	33.3
Women 50 >	20	80.0	13	81.2
Has made an appointment for a Mammogram	14	10.4	11	8.4
Stages of change				
Precontemplators	8	8.2	0	0.0
Contemplators	24	24.5	14	13.7
Action	28	28.6	41	40.2
Maintenance	30	30.6	41	40.2
Relapse Risk	1	1.0	1	1.0
Relapse	7	7.1	5	4.9

Note. Percentages represent row percentages (e.g., among women with a family history of breast cancer, 80.6% ever had a mammogram) except for stages of change whereby percentage represents column percentages (among women with a family history, 8.2% were precontemplators). Stages of changes were calculated for women 40 and older.

[a] Women 40 –49 were considered being on schedule if they had a mammogram within 2 year of the baseline telephone interview. Women 50 and older were considered being on schedule if they had a mammogram within a year of the baseline interview.

[B] Women 40 – 49 who were on schedule were asked whether they were thinking of having another mammogram within the next two years (yes/no). Women 50 and older who were on schedule were asked if they were thinking of having another mammogram within the next year (yes/no).

[c] Women 40 and older who were not on schedule were asked if they were thinking of having a mammogram within the next 3 months.

Table 3

Mean Attitudes towards mammography screening among women with and without a family history (controls) of breast cancer.

Variable	Family History	Controls	t
Decisional Balance			
Pros	20.8	21.8	3.3**
Cons	15.6	14.4	2.4*
Attitudinal Ambivalence	2.1	1.8	2.4*
Overall attitude towards having Mammograms	4.2	4.0	1.5
Mammograms are effective at detecting Breast cancer early	3.5	3.4	<1

Note. Alpha for the pro subscale was .70, and alpha for the con subscale was .56 for the entire sample. Attitudinal ambivalence was assessed by asking women how torn they felt about whether they should or should not get a mammogram within the next year or two.

* $p<.05$.
** $p<.01$.

Table 4

Attributions pertaining to perceived risk.

Attributional Category	Low		Average		High	
	N	%	N	%	N	%
Women without a family history						
Heredity	6	15.8	3	21.4	9	34.6
Personal Actions	25	65.8	4	28.6	9	34.6
Physiological	7	18.4	8	50.0	7	18.4
Women with a family history						
Heredity	9	47.4	33	78.6	35	79.5
Personal Actions	6	31.6	3	7.1	4	9.1
Physiological	4	21.0	6	14.3	5	11.4

Note. Women were categorized as low risk of they reported that their lifetime risk of getting breast cancer was very unlikely or unlikely; they were categorized as average risk if they felt a moderate chance of getting breast cancer; and they were categorized as high risk if they felt their risk was likely or very likely. Percents represent column percents (e.g., among women without a family history who reported low risk, 15.8% mentioned heredity).

Table 5

Correct knowledge of breast cancer risk factors among women with and without a family history
(Controls) of breast cancer.

Risk factor	Family History		Controls	
	N	%	N	%
Being older	59	44.0	58	44.3
Having a family history	120	89.6	117	89.3
Having lots of stress	79	59.0	76	58.0
Having a breast injury (e.g., bruise)	44	32.8	38	29.0
Being older when you have your First child (e.g., over age 30)	58	43.3	39	29.8
Never having children	32	23.9	25	19.1
Late age of menopause	40	29.8	50	38.2
Early age of starting periods	25	18.7	28	21.3
Never having breast fed	29	21.6	22	16.8

Note. Percentages represent row percentages (e.g., among women with a family history, 44% correctly identified growing older as a risk factor). For the items having lots of stress and having a breast injury, the percentages represent the proportion of women who reported that having lots of stress or having a breast injury are not related to breast cancer risk.

Appendix A
Baseline Telephone Interview Questionnaire

Baseline Questionnaire

Mammography History

First, I would like to know:

1.1   What is your date of birth?

Month_____ Day_____ Year_____

Month:97=Refused   98=Don't know
Day: 97=Refused   98=Don't know

Now I would like to ask you a few questions about breast cancer screening and mammograms.

1.2a   Have you ever had a mammogram?

1=Yes   2=No   7=Refused   8=Don't Know

If 1.2a=Yes ➜ 1.2b
        No, Refuse, Don't Know ➜ 1.4

1.2b   In what month and year did you have your most recent mammogram?

Month_____   Day__1___   Year_____
Estimated___   Estimated_X_   Estimated___
Seasonal ___   Real   __
Real   __

Month:97=Refused   98=Don't Know
Day: 97=Refused   98=Don't Know
Year: 97=Refused   98=Don't Know

1.3a   Did you have a mammogram before that?

1=Yes   2=No   7=Refuse   8=Don't Know

If 1.3a= Yes ➜ 1.3b
        No, Refuse, Don't know ➜ 1.4

1.3b   In what month and year did you have it?

Month_____   Day__1___   Year_____

Estimated___   Estimated_X_   Estimated___
Seasonal ___   Real   ___
Real   ___

Month:97=Refused   98=Don't Know
Year: 97=Refused   98=Don't Know

Intentions

If her most recent mammogram was >12 months from the date of this interview, or she has never had a mammogram, ask 1.4a and 1.4b.

1.4a   Are you thinking about having a/another mammogram sometime within the next three months?

1=Yes   2=No   7=Refuse   8=Don't Know

If 1.4a=Yes ➜ 1.4b
        No, Refuse, Don't know ➜ 1.9a

1.4b   Are you definitely planning to have a mammogram sometime within the next three months?

1=Yes   2=No   7=Refuse   8=Don't Know

Go to 1.9a

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If her most recent mammogram was ≤12 months from the date of this interview, please ask 1.5a and 1.5b.

1.5a   Are you thinking about having another mammogram about one year after your most recent mammogram?

   1=Yes   2=No   7=Refuse   8=Don't Know

   If 1.5a= Yes ➔ *1.5b*
         No, Refuse, Don't know ➔ *1.9a*

1.5b   Are you definitely planning on having another mammogram about one year after your most recent mammogram?

   1=Yes   2=No   7=Refuse   8=Don't Know

   Go to 1.9a

[OR: IF AGE 40-49, DETERMINE]:

If her most recent mammogram was >24 months from the date of this interview, or she has never had a mammogram, ask 1.6a and 1.6b.

1.6a   Are you thinking about having a/another mammogram sometime within the next three months?

   1=Yes   2=No   7=Refuse   8=Don't Know

   If 1.6a=Yes ➔ *1.6b*
         No, Refuse, Don't know ➔ *1.9a*

1.6b   Are you definitely planning to have a mammogram sometime within the next three months?

   1=Yes   2=No   7=Refuse   8=Don't Know

   Go to 1.9a

If her most recent mammogram was ≤24 months from the date of this interview, please ask 1.7a and 1.7b.

1.7a   Are you thinking about having another mammogram about one to two years after your most recent mammogram?

    1=Yes   2=No   7=Refuse   8=Don't Know

If 1.7a= Yes → 1.7b
No, Refuse, Don't know → 1.9a

1.7b   Are you definitely planning on having another mammogram about one to two years after your most recent mammogram?

    1=Yes   2=No   7=Refuse   8=Don't Know

Go to 1.9a

[OR: IF UNDER AGE 40, ASK 1.8]:

1.8   Are you planning to get a mammogram every one to two years once you have turned 40?

    1=Yes   2=No   7=Refuse   8=Don't Know

[ASK EVERYONE THE REMAINDER OF THE QUESTIONS]:

1.9a   Do you have an appointment for a mammogram?

    1=Yes   2=No   7=Refuse   8=Don't Know

If 1.9a= Yes → 1.9b
No, Refuse, Don't know → 1.10

1.9b   What is the date of your appointment?

Month_____   Day____   Year_____

Estimated__   Estimated__   Estimated__
Seasonal __   Estimated__   Real __
Real   __

Month: 97=Refused   98=Don't Know
Day   97=Refused   98=Don't Know
Year: 97=Refused   98=Don't Know

1.10   When did you last have a breast exam by a doctor or other health care
       professional?

       1.   Within the past year
       2.   One to two years ago
       3.   Three or more years ago
       4.   Never
       7.   Refused
       8.   Don't know

Lifestyle/Health Information

The next few questions are about your health in general.

2.1   How would you describe your health right now?

       1.   Excellent
       2.   Very Good
       3.   Good
       4.   Fair
       5.   Poor
       7.   Refused   **8.   Don't know**

The next few statements ask for your views about how you take care of your health. Please tell
me if you agree or disagree with each statement I read to you. There are no right or wrong
answers. Just answer what is right for you.

2.2   When you are sick, you try to cure yourself rather than go to the doctor.
       Would you say you disagree, agree, or neither disagree nor agree?

       1.   Strongly disagree
       2.   Disagree
       3.   Neither disagree nor agree
       4.   Agree
       5.   Strongly agree
       7.   Refused
       8.   Don't know

2.3   If you feel healthy, you do not go to the doctor for a routine check-up.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   Refused
        8.   Don't know

2.4   You keep a record so that you know when to schedule your next doctor's appointment.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   Refused
        8.   Don't know

2.5   You rely more on home remedies than on doctors.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   Refused   8.   Don't know

2.6a   What is your current cigarette smoking status? **[Read first three choices only.]**

        1.   Never smoked
        2.   Used to smoke, but quit ➜ *Specify*-How many years ago?_____
        3.   Smoke now

        7=Refuse   8=Don't Know

        If 2.6a =Smoke now ➜ 2.6b
                Never, Used to, Refuse, Don't know ➜ 3.1a

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2.6b   On average, how many cigarettes a day do you smoke?

__ __   **[One pack=20 cigarettes]**

7=Refused   8=Don't know

Family History

3.1   Was your mother ever told by a doctor that she had breast cancer?

1=Yes   2=No   **7=Refused**   **8=Don't Know**

3.2a   Were any of your sisters ever told by a doctor that they had breast cancer?

1=Yes   2=No   3=Not applicable--No sisters

7=Refused   8=Don't Know

If 3.2a= Yes➜ 3.2b
*   No, N/A, Refuse, Don't Know ➜ 3.3a*

3.2b   How many of your sisters were told that they had breast cancer?

__ __

97=Refused   98=Don't know

3.3a   Have any of your daughters ever been told by a doctor that they had breast cancer?

1=Yes   2=No   3=Not applicable--No daughters

7=Refuse   8=Don't Know

If 3.3a= Yes ➜ 3.3b
*   No, N/A, Refuse, Don't Know ➜ 3.4*

3.3b   How many of your daughters have been told that they have breast cancer?

__ __   **97=Refuse   98=Don't know**

3.4 There are some new blood tests that may be able to tell if you have a greater chance of getting breast cancer because of something that might have been passed down to you through your blood relatives, that is, through your genes. If this test was free, how interested would you be in having it done? **[We don't have the test yet but might soon.]**

   1. Not at all interested
   2. Slightly interested
   3. Somewhat interested
   4. Interested
   5. Very interested
   7. Refused
   8. Don't know

Decisional Balance

Following are some statements a person might make about mammograms. I'd like to know if you agree or disagree with these statements. Again, there are no right or wrong answers.

4.1 Your family will benefit if you have a mammogram.
   Would you say you disagree, agree, or neither disagree nor agree?

   1. Strongly disagree
   2. Disagree
   3. Neither agree nor disagree
   4. Agree
   5. Strongly agree
   7. Refused
   8. Don't know

4.2 You are more likely to go for mammograms if your doctor tells you it is important for you. Would you say you disagree, agree, or neither disagree nor agree?

   1. Strongly disagree
   2. Disagree
   3. Neither agree nor disagree
   4. Agree
   5. Strongly agree
   7. Refused
   8. Don't know

4.3   Having mammograms every year or two gives you a feeling of control over your health.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither agree nor disagree
        4.   Agree
        5.   Strongly agree
        7.   Refused
        8.   Don't know

4.4   Having mammograms every year or two gives you peace of mind about your health.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   Refused
        8.   Don't know

4.5   Women need mammograms even when they have no family history of breast cancer.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   Refused   8.   Don't know

4.6.   Mammograms often lead to unnecessary surgery.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   Refused
        8.   Don't know

4.7   Having mammograms causes a lot of worry or anxiety about breast cancer.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   **Refused**
        8.   **Don't know**

4.8   Once you have a couple of mammograms that are normal, you don't need any more for a
        few years. Would you say you disagree, agree, or neither disagree or agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   **Refused**   8.   **Don't know**

4.9   The cost of mammograms would cause you to hesitate about getting one.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   **Refused**
        8.   **Don't know**

4.10   It is confusing because there is so much different information about how often women
        should have mammograms. Would you say you disagree, agree, or neither disagree nor
        agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither disagree nor agree
        4.   Agree
        5.   Strongly agree
        7.   **Refused**
        8.   **Don't know**

4.11   The pain caused by having a mammogram is bad enough to make you put off getting one. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refused
8. Don't know

4.12   You are torn about whether you should or should not get a mammogram within the next year or two. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refused
8. Don't know

4.13   How effective do you think mammograms are in finding breast cancer early?

1. Not at all effective
2. Somewhat effective
3. Effective
4. Very effective
7. Refused
8. Don't know

4.14   Overall, your attitude towards having a mammogram is **[Read choices 1-5 only.]**

1. Not at all favorable
2. Slightly favorable
3. Somewhat favorable
4. Very favorable
5. Extremely favorable
7. Refused
8. Don't know

Knowledge of Breast Cancer

I will now mention several items that may or may not be related to getting breast cancer. Please let me know whether or not **you** think each item is related to getting breast cancer. **[Do not mention age ranges below (in brackets) unless asked to clarify.]**

5.1 Being older   1=Yes   2=No   **7=Refused**   **8=Don't know**
     [age 50 and older]

5.2 Having a family history   1=Yes   2=No   **7=Refused**   **8=Don't know**

5.3 Having lots of stress   1=Yes   2=No   **7=Refused**   **8=Don't know**

5.4 Having a breast injury   1=Yes   2=No   **7=Refused**   **8=Don't know**
     (like a bruise)

5.5 Being older when you have your first child **[over age 30]**
                                          1=Yes   2=No   **7=Refused**   **8=Don't know**

5.6 Never having had children   1=Yes   2=No   **7=Refused**   **8=Don't know**

5.7 Late age of menopause   1=Yes   2=No   **7=Refused**   **8=Don't know**
     [over age 55]

5.8 Early age of starting periods 1=Yes   2=No   **7=Refused**   **8=Don't know**
     [under age 12]

5.9 Never having breastfed   1=Yes   2=No   **7=Refused**   **8=Don't know**

5.10   How often should a woman your age get a mammogram? **[DO NOT READ CHOICES]**

1.   Every year
2.   Every 1-2 years
3.   Every 3 years or more
4.   Only if there are symptoms/pain
5.   Only when the doctor recommends it
6.   Other (specify): _____
7.   **Refuse**
8.   **Don't know**

Risk Perceptions

The next few questions are about your thoughts about getting breast cancer.

6.1   Compared to other African-American women your age, what do you think is your chance of getting breast cancer in your lifetime?
Would you say ... **[Read choices 1-5 only.]**

    1.   Much lower
    2.   Somewhat lower
    3.   About the same
    4.   Somewhat higher
    5.   Much higher
    7.   Refused
    8.   Don't know

6.2   What do you think is your chance of getting breast cancer in your lifetime?
Would you say ... **[Read choices 1-5 only.]**

    1.   Very unlikely
    2.   Unlikely
    3.   Moderate chance
    4.   Likely
    5.   Very likely
    7.   Refused
    8.   Don't know

If Refuse, Don't Know ➜ Go to 6.4

6.3 In the previous question, you mentioned that your risk of getting breast cancer was **[See question 6.2.]** _____. What things did you think about that led you to choose that answer? **[DO NOT READ CHOICES; MAY CIRCLE MORE THAN 1]**

    1.   Age (younger)
    2.   Age (older)
    3.   Family history (positive)
    4.   Family history (negative)
    5.   Exercise (regular)
    6.   Exercise (little or none)
    7.   Diet (good)
    8.   Diet (bad)
    9.   Faith in God
    10.   Breast injury
    11.   Don't have symptoms (pain, lumps, etc.)
    12.   Have symptoms
    13.   I get regular mammograms
    14.   I get regular breast exams (CBE)
    15.   Based on what my doctor told me
    16.   Because I breastfed
    17.   Not applicable **[response to previous question REFUSE or DON'T KNOW]**
    96.   Other (specify):_____
    97.   Refuse
    98.   Don't know

6.4 How concerned are you about getting breast cancer?
Would you say ...**[Read choices 1-5 only.]**

    1.   Not at all concerned
    2.   Slightly concerned
    3.   Somewhat concerned
    4.   Concerned
    5.   Very concerned
    7.   Refused
    8.   Don't know

Psychological Well-being

The following questions are about how you have been feeling within the last month. For each question, please give the one answer that comes CLOSEST to the way you have been feeling within the last month. I will repeat the choices if you would like me to.

Within the last month, how much of the time were you ...

7.1   A very nervous person? Would you say ... **[Read choices 1-5 only.]**

        1.   None of the time
        2.   A little bit of the time
        3.   About half the time
        4.   Most of the time
        5.   All of the time
        7.   Refused
        8.   Don't know

Within the last month, how much of the time were you...

7.2   So down in the dumps that nothing could cheer you up?
        Would you say ... **[Read choices 1-5 only.]**

        1.   None of the time
        2.   A little bit of the time
        3.   About half the time
        4.   Most of the time
        5.   All of the time
        7.   Refused
        8.   Don't know

Within the last month, how much of the time were you ...

7.3   Calm and peaceful?
        Would you say ... **[Read choices 1-5 only.]**

        1.   None of the time
        2.   A little bit of the time
        3.   About half the time
        4.   Most of the time
        5.   All of the time
        7.   Refused
        8.   Don't know

Within the last month, how much of the time were you...

7.4   Downhearted and blue?
        Would you say ... **[Read choices 1-5 only.]**

        1.   None of the time
        2.   A little bit of the time
        3.   About half the time
        4.   Most of the time
        5.   All of the time
        7.   Refused
        8.   Don't know

Within the last month, how much of the time were you...

7.5   A happy person?
        Would you say ... **[Read choices 1-5 only.]**

        1.   None of the time
        2.   A little bit of the time
        3.   About half the time
        4.   Most of the time
        5.   All of the time
        7.   Refused
        8.   Don't know

Just World

These next questions are about your own personal outlook on life and the world in general. Please tell me whether you agree or disagree with each question.

8.1   You feel you get what you are entitled to have in life.
        Would you say you agree, disagree, or neither agree nor disagree?

        1=Strongly agree
        2=Agree
        3=Neither agree or disagree
        4=Disagree
        5=Strongly disagree
        7=Refuse
        8=Don't Know

8.2   You feel that your efforts are noticed and rewarded.
        Would you say you agree, disagree, or neither agree nor disagree?

        1=Strongly agree
        2=Agree
        3=Neither agree or disagree
        4=Disagree
        5=Strongly disagree
        7=Refuse   8=Don't Know

8.3   You feel that people treat you fairly.
        Would you say you agree, disagree, or neither agree nor disagree?

        1=Strongly agree
        2=Agree
        3=Neither agree or disagree
        4=Disagree
        5=Strongly disagree
        7=Refuse   8=Don't Know

8.4   You feel that when you meet with misfortune, you have brought it upon yourself.
        Would you say you agree, disagree, or neither agree nor disagree?

        1=Strongly agree
        2=Agree
        3=Neither agree or disagree
        4=Disagree
        5=Strongly disagree
        7=Refuse   8=Don't Know

8.5   You feel you get what you deserve in life.
        Would you say you agree, disagree, or neither disagree nor disagree?

        1=Strongly agree
        2=Agree
        3=Neither agree or disagree
        4=Disagree
        5=Strongly disagree
        7=Refuse   8=Don't Know

8.6   You feel that people treat you with the respect that you deserve.
        Would you say you agree, disagree, or neither agree nor disagree?

        1=Strongly agree
        2=Agree
        3=Neither agree or disagree
        4=Disagree
        5=Strongly disagree
        7=Refuse   **8=Don't Know**

8.7   You feel the world treats you fairly.
        Would you say you agree, disagree, or neither agree nor disagree?

        1=Strongly agree
        2=Agree
        3=Neither agree or disagree
        4=Disagree
        5=Strongly disagree
        7=Refuse   **8=Don't Know**

Demographics

Now I would like to take a moment to update our records.

9.1   What is the highest level of education that you have completed? **[NOTE: READ CHOICES ONLY IF ASKED]**

        1.   Less than high school graduate
        2.   High school graduate
        3.   Trade or technical school
        4.   Some college
        5.   College graduate
        6.   Some graduate work or graduate degree
        7.   Refuse
        8.   Don't know

9.2   What is your marital status? [NOTE: READ CHOICES 1-6 ONLY]

    1.   Married
    2.   Living as married
    3.   Widowed
    4.   Divorced
    5.   Separated
    6.   Single, never married
    7.   Other (specify):_____
    97.   Refused

9.3   Which of the following best describes your present working status? [NOTE: READ
        CHOICES 1-5 ONLY]

    1.   Working part-time
    2.   Working full-time
    3.   Full-time homemaker
    4.   Retired
    5.   Unemployed
    6.   Other (specify):_____
            **[Can include disabled, volunteer worker, student, taking care of sick relative,
            etc.]**
    97.   Refused
    98.   Don't know

9.4   Do you have health insurance coverage? [NOTE: IF NO, CIRCLE #6 (NONE); IF
        YES, ASK "WHAT KIND OF INSURANCE DO YOU HAVE?", AND READ
        CHOICES 1-5]

    1.   Medicaid
    2.   Medicare
    3.   Commercial insurance, such as Blue Cross/Blue Shield
    4.   Health maintenance organization (HMO), e.g. Kaiser
    5.   Managed care, e.g. Sanus
    6.   None
    7.   Other (specify):_____
    97.   Refused
    98.   Don't know

9.5a   Do you still live at *(read current address)*?
        1=Yes   2=No   **7=Refuse**   **8=Don't know**

If 9.5a= Yes → 9.6
                No, Refused, Don't know → 9.5b

9.5b   What is your current address?

        Street address/Apt #/PO Box_____
        City_____ State_____ Zip_____

9.6   We will be calling you again in about 3-4 months (before then we will be sending
        information for you to read on mammography). What is the best number to call to reach
        you, and what would be the best days/times to call?

(___) -_____   Best day(s) to call _____ Best time(s)_____

9.7   Can you give me the name and phone number of another person we could contact who
        would know how to reach you, in case you move or change your phone number?

        First Name _____   Last Name _____

        Telephone number (   ) -

Thank you very much for your time and help. As I mentioned before, we will be sending you a
brochure about breast cancer and mammography in about 3 months. When you get this
important information, please read it carefully.   If you have any questions, please call Jenny
Terrenoire or Dr. Lipkus at 956-5644. Thanks again.

10.1   Comments:

Total Interview Time: __.__ minutes

Appendix B
Message Framing (Gain/Loss/Control)
Psychoeducational Brochure

Say Yes to Life

Get Regular Mammograms

By taking care of ourselves we are taking care of each other. Together, we can fight breast cancer!

Appendix C
Second Follow-up Telephone Interview
Questionnaire

Follow-up Questionnaire

Mammography History

First, I would like to ask you a few questions about breast cancer screening and mammograms.

1.1a   Have you had a mammogram since we first talked to you on the phone about 3-4 months ago?

        1=Yes   2=No   7=Refused   8=Don't know

If 1.1a= Yes ➡ 1.1b
No, Refuse, Don't know ➡ 1.2

1.1b   In what month and year did you have it?

Month_____   Day_1___   Year_____
Estimated___   Estimated_X_   Estimated___
Seasonal___   Real___
Real___

Month:97=Refused   98=Don't Know
Day: 97=Refused   98=Don't Know
Year: 97=Refused   98=Don't Know

Intentions

[IF UNDER AGE 40, SKIP TO 1.7]

IF AGE 40 AND OVER, ASK:

1.2   Are you planning to talk to your doctor sometime during the next 4 months about mammograms?

        1=Yes   2=No   7=Refuse   8=Don't Know

FOR WOMEN AGE 50 AND OLDER, PLEASE DETERMINE:

If her most recent mammogram was >12 months from the date of this interview, or she has never had a mammogram, ask 1.3a and 1.3b.

1.3a   Are you thinking about having a/another mammogram sometime within the next four months?

     1=Yes   2=No   7=Refuse   8=Don't Know

     If 1.3a=Yes ➜ 1.3b
         No, Refuse, Don't know ➜ 1.9a

1.3b   Are you definitely planning to have a mammogram sometime within the next four months?

     1=Yes   2=No   7=Refuse   8=Don't Know

     Go to 1.9a

If her most recent mammogram was ≤12 months from the date of this interview, please ask 1.4a and 1.4b.

1.4a   Are you thinking about having another mammogram about one year after your most recent mammogram?

     1=Yes   2=No   7=Refuse   8=Don't Know

     If 1.4a= Yes ➜ 1.4b
         No, Refuse, Don't know ➜ 1.9a

1.4b   Are you definitely planning on having another mammogram about one year after your most recent mammogram?

     1=Yes   2=No   7=Refuse   8=Don't Know

     Go to 1.9a

[OR: IF AGE 40-49, DETERMINE]:

If her most recent mammogram was >24 months from the date of this interview, or she has never had a mammogram, ask 1.5a and 1.5b.

1.5a   Are you thinking about having a/another mammogram sometime within the next four months?

        1=Yes   2=No   7=Refuse   8=Don't Know

If 1.5a=Yes ➜ 1.5b
        No, Refuse, Don't know ➜ 1.9a

1.5b   Are you definitely planning to have a mammogram sometime within the next four months?

        1=Yes   2=No   7=Refuse   8=Don't Know

Go to 1.9a

If her most recent mammogram was ≤24 months from the date of this interview, please ask 1.6a and 1.6b.

1.6a   Are you thinking about having another mammogram about one to two years after your most recent mammogram?

        1=Yes   2=No   7=Refuse   8=Don't Know

If 1.6a= Yes ➜ 1.6b
No, Refuse, Don't know ➜ 1.9a

1.6b   Are you definitely planning on having another mammogram about one to two years after your most recent mammogram?

        1=Yes   2=No   7=Refuse   8=Don't Know

Go to 1.9a

[OR: IF UNDER AGE 40, ASK 1.7 AND 1.8]:

1.7   Are you planning to talk to your doctor about mammograms when you reach age 40?

       1=Yes   2=No   7=Refuse   8=Don't Know

1.8   Are you planning to get a mammogram every one to two years once you have turned 40?

       1=Yes   2=No   3=Only if doctor recommends   7=Refuse   8=Don't Know

[ASK <u>EVERYONE</u> THE REMAINDER OF THE QUESTIONS]:

1.9a   Do you have an appointment for a mammogram?

       1=Yes   2=No   7=Refuse   8=Don't Know

If 1.9a= Yes ➜ 1.9b
No, Refuse, Don't know ➜ 2.1

1.9b   What is the date of your appointment?

       Month_____   Day____   Year_____

       Estimated___   Estimated___   Estimated___
       Seasonal ___   Real__ Real __
       Real   ___

       Month:97=Refused   98=Don't Know
       Day   97=Refused   98=Don't Know
       Year: 97=Refused   98=Don't Know

Decisional Balance

Following are some statements a person might make about mammograms. I'd like to know if you agree or disagree with these statements. There are no right or wrong answers, just answer what is right for you.

2.1   Your family will benefit if you have a mammogram.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither agree nor disagree
        4.   Agree
        5.   Strongly agree
        7.   **Refused**
        8.   **Don't know**

2.2   You are more likely to go for mammograms if your doctor tells you it is important for you. Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither agree nor disagree
        4.   Agree
        5.   Strongly agree
        7.   **Refused**
        8.   **Don't know**

2.3   Having mammograms every year or two gives you a feeling of control over your health.
        Would you say you disagree, agree, or neither disagree nor agree?

        1.   Strongly disagree
        2.   Disagree
        3.   Neither agree nor disagree
        4.   Agree
        5.   Strongly agree
        7.   **Refused**
        8.   **Don't know**

2.4   Having mammograms every year or two gives you peace of mind about your health.
       Would you say you disagree, agree, or neither disagree nor agree?

       1.   Strongly disagree
       2.   Disagree
       3.   Neither disagree nor agree
       4.   Agree
       5.   Strongly agree
       7.   Refused
       8.   Don't know

2.5   Women need mammograms even when they have no family history of breast cancer.
       Would you say you disagree, agree, or neither disagree nor agree?

       1.   Strongly disagree
       2.   Disagree
       3.   Neither disagree nor agree
       4.   Agree
       5.   Strongly agree
       7.   Refused
       8.   Don't know

2.6.   Mammograms often lead to unnecessary surgery.
       Would you say you disagree, agree, or neither disagree nor agree?

       1.   Strongly disagree
       2.   Disagree
       3.   Neither disagree nor agree
       4.   Agree
       5.   Strongly agree
       7.   Refused
       8.   Don't know

2.7   Having mammograms causes a lot of worry or anxiety about breast cancer.
       Would you say you disagree, agree, or neither disagree nor agree?

       1.   Strongly disagree
       2.   Disagree
       3.   Neither disagree nor agree
       4.   Agree
       5.   Strongly agree
       7.   Refused
       8.   Don't know

2.8   Once you have a couple of mammograms that are normal, you don't need any more for a
       few years. Would you say you disagree, agree, or neither disagree or agree?

       1.   Strongly disagree
       2.   Disagree
       3.   Neither disagree nor agree
       4.   Agree
       5.   Strongly agree
       7.   Refused
       8.   Don't know

2.9   The cost of mammograms would cause you to hesitate about getting one.
       Would you say you disagree, agree, or neither disagree nor agree?

       1.   Strongly disagree
       2.   Disagree
       3.   Neither disagree nor agree
       4.   Agree
       5.   Strongly agree
       7.   Refused
       8.   Don't know

2.10   It is confusing because there is so much different information about how often women should have mammograms.
Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

2.11   The pain caused by having a mammogram is bad enough to make you put off getting one.
Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

2.12   You are torn about whether you should or should not get a mammogram within the next year or two. Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

2.13   How effective do you think mammograms are in finding breast cancer early?

1.   Not at all effective
2.   Somewhat effective
3.   Effective
4.   Very effective
7.   Refused
8.   Don't know

2.14   How worried are you that if you had a mammogram, it might find cancer?

1.   Not at all worried
2.   Slightly worried
3.   Worried
4.   Very worried
7.   Refused
8.   Don't know

2.15   I'm going to read 2 statements to you about why you might have a mammogram; I'd like to know which statement you agree with **most:**

1.   You would have a mammogram in order to find out if you have breast cancer.
2.   You would have a mammogram in order to gain peace of mind in finding out that you do not have breast cancer.
7.   Refused
8.   Don't know

2.16   Overall, your attitude towards having a mammogram is **[Read choices 1-5 only.]**

1.   Not at all favorable
2.   Slightly favorable
3.   Somewhat favorable
4.   Very favorable
5.   Extremely favorable
7.   Refused
8.   Don't know

Knowledge of Breast Cancer

I will now mention several items that may or may not be related to getting breast cancer. Please let me know whether or not **you** think each item is related to getting breast cancer. **[Do not mention age ranges below (in brackets) unless asked to clarify.]**

3.1 Being older   1=Yes   2=No   **7=Refused   8=Don't know**
     [age 50 and older]

3.2 Having a family history 1=Yes   2=No   **7=Refused   8=Don't know**

3.3 Having lots of stress   1=Yes   2=No   **7=Refused   8=Don't know**

3.4 Having a breast injury   1=Yes   2=No   **7=Refused   8=Don't know**
     (like a bruise)

3.5 Being older when you have your first child **[over age 30]**
                              1=Yes   2=No   **7=Refused   8=Don't know**

3.6 Never having had children   1=Yes   2=No   **7=Refused   8=Don't know**

3.7 Having atypical hyperplasia (a kind of breast problem that can be found with a breast biopsy)
                              1=Yes   2=No   **7=Refused   8=Don't know**

3.8   How often should a woman your age get a mammogram? **[DO NOT READ CHOICES]**

     1.   Every year
     2.   Every 1-2 years
     3.   Every 3 years or more
     4.   Only if there are symptoms/pain
     5.   Only when the doctor recommends it
     6.   Other (specify): _____
     7.   Refuse
     8.   Don't know

Risk Perceptions

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The next few questions are about your thoughts about getting breast cancer.

4.1   Compared to other African-American women your age, what do you think is your chance
       of getting breast cancer in your lifetime?
       Would you say ... **[Read choices 1-5 only.]**

       1.   Much lower
       2.   Somewhat lower
       3.   About the same
       4.   Somewhat higher
       5.   Much higher
       7.   Refused
       8.   Don't know

4.2   What do you think is your chance of getting breast cancer in your lifetime?
       Would you say ... **[Read choices 1-5 only.]**

       1.   Very unlikely
       2.   Unlikely
       3.   Moderate chance
       4.   Likely
       5.   Very likely
       7.   Refused
       8.   Don't know

       If Refuse, Don't Know ➡ *Go to 4.4*

4.3　In the previous question, you mentioned that your risk of getting breast cancer was **[See question 4.2.]** _____. What things did you think about that led you to choose that answer? **[DO NOT READ CHOICES; <u>MAY CIRCLE MORE THAN 1</u>]**

1.　Age (younger)
2.　Age (older)
3.　Family history (positive)
4.　Family history (negative)
5.　Exercise (regular)
6.　Exercise (little or none)
7.　Diet (good)
8.　Diet (bad)
9.　Faith in God
10.　Breast injury
11.　Don't have symptoms (pain, lumps, etc.)
12.　Have symptoms
13.　I get regular mammograms
14.　I get regular breast exams (CBE)
15.　Based on what my doctor told me
16.　Because I breastfed
17.　Not applicable **[ANSWERED REFUSE OR DON'T KNOW TO PREV. Q]**
96.　Other (specify):_____
97.　Refuse
98.　Don't know

4.4　How concerned are you about getting breast cancer?
Would you say ...**[Read choices 1-5 only.]**

1.　Not at all concerned
2.　Slightly concerned
3.　Somewhat concerned
4.　Concerned
5.　Very concerned
7.　Refused
8.　Don't know

Psychological Well-being

The following questions are about how you have been feeling within the last month. For each question, please give the one answer that comes CLOSEST to the way you have been feeling within the last month. I will repeat the choices if you would like me to.

Within the last month, how much of the time were you ...

5.1   A very nervous person? Would you say ... **[Read choices 1-5 <u>only</u>.]**

         1.   None of the time
         2.   A little bit of the time
         3.   About half the time
         4.   Most of the time
         5.   All of the time
         7.   **Refused**
         8.   **Don't know**

Within the last month, how much of the time were you...

5.2   So down in the dumps that nothing could cheer you up?
             Would you say ... **[Read choices 1-5 only.]**

         1.   None of the time
         2.   A little bit of the time
         3.   About half the time
         4.   Most of the time
         5.   All of the time
         7.   **Refused**
         8.   **Don't know**

Within the last month, how much of the time were you ...

5.3   Calm and peaceful?
             Would you say ... **[Read choices 1-5 only.]**

         1.   None of the time
         2.   A little bit of the time
         3.   About half the time
         4.   Most of the time
         5.   All of the time
         7.   **Refused**
         8.   **Don't know**

Within the last month, how much of the time were you...

5.4   Downhearted and blue?
        Would you say ... **[Read choices 1-5 only.]**

        1.   None of the time
        2.   A little bit of the time
        3.   About half the time
        4.   Most of the time
        5.   All of the time
        7.   Refused
        8.   Don't know

Within the last month, how much of the time were you...
5.5   A happy person?
        Would you say ... **[Read choices 1-5 only.]**

        1.   None of the time
        2.   A little bit of the time
        3.   About half the time
        4.   Most of the time
        5.   All of the time
        7.   Refused
        8.   Don't know

Brochure Questions

Now I would like to ask you some questions about the brochure we sent you about mammograms and breast cancer screening.

6.1   How much of the brochure did you read?

        1.   None of it   **[SKIP TO 7.1a]**
        2.   Some of it
        3.   Most of it
        4.   All of it
        7.   Refused
        8.   Don't know

6.2　To what extent did the brochure emphasize what you have to **gain** by having regular mammograms?

    1.　Not at all
    2.　Slightly
    3.　Somewhat
    4.　A lot
    7.　Refused
    8.　Don't know

6.3.　To what extent did the brochure emphasize what you have to **lose** by not having regular mammograms?

    1.　Not at all
    2.　Slightly
    3.　Somewhat
    4.　A lot
    7.　Refused
    8.　Don't know

Now I will be mentioning different ways that the messages in the brochure may have made you feel.

6.4　Did the brochure make you feel:

    1.　Not at all scared
    2.　Slightly scared
    3.　Somewhat scared
    4.　Scared
    5.　Very scared
    7.　Refused
    8.　Don't know

6.5　Did the brochure make you feel:

    1.　Not at all reassured
    2.　Slightly reassured
    3.　Somewhat reassured
    4.　Reassured
    5.　Very reassured
    7.　Refused
    8.　Don't know

6.6   Did the brochure make you feel:

1.   Not at all nervous
2.   Slightly nervous
3.   Somewhat nervous
4.   Nervous
5.   Very nervous
7.   **Refused**
8.   **Don't know**

6.7   Did the brochure make you feel:

1.   Not at all comforted
2.   Slightly comforted
3.   Somewhat comforted
4.   Comforted
5.   Very comforted
7.   **Refused**
8.   **Don't know**

6.8   Did the brochure make you feel:

1.   Not at all concerned
2.   Slightly concerned
3.   Somewhat concerned
4.   Concerned
5.   Very concerned
7.   **Refused**
8.   **Don't know**

6.9   Did the brochure make you feel:

1.   Not at all relieved
2.   Slightly relieved
3.   Somewhat relieved
4.   Relieved
5.   Very relieved
7.   **Refused**
8.   **Don't know**

6.10   Now I'm going to read 3 statements to you about how the brochure might have affected your plans for getting regular mammograms, and I'd like you to tell me which statement you agree with **most**:

1.   The brochure made you feel that you were less likely to get regular mammograms
2.   The brochure made you feel that you were more likely to get regular mammograms
3.   The brochure did not change your plans about getting regular mammograms
7.   Refused
8.   Don't know

6.11   The next 3 statements are about how the brochure might have affected how you see your chances of getting breast cancer someday; again, I'd like to know which statement you agree with **most**:

1.   The brochure made you feel less likely to get breast cancer
2.   The brochure made you feel more likely to get breast cancer
3.   The brochure did not change your feelings about your chances of getting breast cancer
7.   Refused
8.   Don't know

6.12   How interested were you in the brochure?

1.   Not at all interested
2.   Slightly interested
3.   Somewhat interested
4.   Interested
5.   Very interested
7.   Refused   8.   Don't know

6.13   Was the information in the brochure personally useful to you?
        Would you say ...

1.   Not at all useful
2.   Slightly useful
3.   Somewhat useful
4.   Useful
5.   Very useful
7.   Refused
8.   Don't know

Demographics

I just have a few more questions to ask you, to make sure our records are up to date.

7.1a   Do you still live at *(read current address)*?

        1=Yes   2=No   **7=Refuse**   **8=Don't know**

        If 7.1a= Yes → 7.2
                    No, Refused, Don't know → 7.1b

7.1b   What is your current address?

    Street address/Apt #/PO Box_____
    City_____ State_____ Zip_____

7.2   We will be calling you one more time in about 4 months. What is the best number to call to reach you, and what would be the best days/times to call?

(__) __-_____   Best day(s) to call _____ Best time(s)_____

Appendix D
Final Telephone Interview Questionnaire

Final Questionnaire

<u>Mammography History</u>

First, I would like to ask you a few questions about breast cancer screening and mammograms.

1.1a   Have you ever had a mammogram?

    1=Yes   2=No   **7=Refuse**   **8=Don't know**

If 1.1a= Yes ➔ 1.1b
        No, Refuse, Don't know ➔ 1.2

1.1b   Have you had a mammogram since we last talked to you on the phone about 4-5 months ago?

    1=Yes   2=No   **7=Refused**   **8=Don't know**

1.1c   In what month and year did you have your most recent mammogram?

Month_____ Day__1___ Year_____
Estimated__ Estimated <u>X</u> Estimated__
Seasonal __   Real   __
Real   __

Month:97=Refused   98=Don't Know
Day: 97=Refused   98=Don't Know
Year: 97=Refused   98=Don't Know

1.1d   Have you ever had an abnormal mammogram, that is, one that required more tests?

    1.   Yes
    2.   No
    7.   **Refuse**
    8.   **Don't know**

Intentions

[IF UNDER AGE 40, SKIP TO 1.7]

IF AGE 40 AND OVER, ASK:

1.2   Are you planning to talk to your doctor sometime during the next 4 months about mammograms?

        1=Yes   2=No   7=Refuse   8=Don't Know

FOR WOMEN AGE 50 AND OLDER, PLEASE DETERMINE:

If her most recent mammogram was >12 months from the date of this interview, or she has never had a mammogram, ask 1.3a and 1.3b.

1.3a   Are you thinking about having a/another mammogram sometime within the next four months?

        1=Yes   2=No   7=Refuse   8=Don't Know

If 1.3a=Yes ➜ 1.3b
        No, Refuse, Don't know ➜ 1.8

1.3b   Are you definitely planning to have a mammogram sometime within the next four months?

        1=Yes   2=No   7=Refuse   8=Don't Know

Go to 1.8

If her most recent mammogram was ≤12 months from the date of this interview, please ask 1.4a and 1.4b.

1.4a   Are you thinking about having another mammogram about one year after your most recent mammogram?

        1=Yes   2=No   7=Refuse   8=Don't Know

If 1.4a= Yes ➜ 1.4b
        No, Refuse, Don't know ➜ 1.8

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1.4b　*Are you definitely planning on having another mammogram about one year after your most recent mammogram?*

1=Yes　　　*2=No*　　　*7=Refuse*　　　*8=Don't Know*

Go to 1.8

[OR: IF AGE 40-49, DETERMINE]:

If her most recent mammogram was >24 months from the date of this interview, or she has never had a mammogram, ask 1.5a and 1.5b.

1.5a　Are you thinking about having a/another mammogram sometime within the next four months?

1=Yes　　　2=No　　　7=Refuse　　　8=Don't Know

If 1.5a=Yes ➜ 1.5b
　　　No, Refuse, Don't know ➜ 1.8

1.5b　Are you definitely planning to have a mammogram sometime within the next four months?

1=Yes　　　2=No　　　7=Refuse　　　8=Don't Know

Go to 1.8

If her most recent mammogram was ≤24 months from the date of this interview, please ask 1.6a and 1.6b.

1.6a　Are you thinking about having another mammogram about one to two years after your most recent mammogram?

1=Yes　　　2=No　　　7=Refuse　　　8=Don't Know

If 1.6a= Yes ➜ 1.6b
No, Refuse, Don't know ➜ 1.8

1.6b　Are you definitely planning on having another mammogram about one to two years after your most recent mammogram?

1=Yes　　　2=No　　　7=Refuse　　　8=Don't Know

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[OR: IF UNDER AGE 40, ASK 1.7]:

1.7   Are you planning to get a mammogram every one to two years once you have turned 40?

   1=Yes   2=No   3=Only if doctor recommends   7=Refuse   8=Don't Know

[ASK EVERYONE THE REMAINDER OF THE QUESTIONS]:

1.8   Do you have an appointment for a mammogram?

   1=Yes   2=No   7=Refuse   8=Don't Know

Decisional Balance

Following are some statements a person might make about mammograms. I'd like to know if you agree or disagree with these statements. There are no right or wrong answers, just answer what is right for you.

2.1   Your family will benefit if you have a mammogram.
      Would you say you disagree, agree, or neither disagree nor agree?

      1.   Strongly disagree
      2.   Disagree
      3.   Neither agree nor disagree
      4.   Agree
      5.   Strongly agree
      7.   Refused   8.   Don't know

2.2   You are more likely to go for mammograms if your doctor tells you it is important for you. Would you say you disagree, agree, or neither disagree nor agree?

      1.   Strongly disagree
      2.   Disagree
      3.   Neither agree nor disagree
      4.   Agree
      5.   Strongly agree
      7.   Refused
      8.   Don't know

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2.3 Having mammograms every year or two gives you a feeling of control over your health. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither agree nor disagree
4. Agree
5. Strongly agree
7. **Refused**
8. **Don't know**

2.4 Having mammograms every year or two gives you peace of mind about your health. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. **Refused**
8. **Don't know**

2.5 Women need mammograms even when they have no family history of breast cancer. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. **Refused**
8. **Don't know**

2.6. Mammograms often lead to unnecessary surgery.
Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refused
8. Don't know

2.7 Having mammograms causes a lot of worry or anxiety about breast cancer.
Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refused
8. Don't know

2.8 Once you have a couple of mammograms that are normal, you don't need any more for a
few years. Would you say you disagree, agree, or neither disagree or agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refused
8. Don't know

2.9   The cost of mammograms would cause you to hesitate about getting one.
      Would you say you disagree, agree, or neither disagree nor agree?

      1.   Strongly disagree
      2.   Disagree
      3.   Neither disagree nor agree
      4.   Agree
      5.   Strongly agree
      7.   Refused
      8.   Don't know

2.10 It is confusing because there is so much different information about how often women
      should have mammograms.
      Would you say you disagree, agree, or neither disagree nor agree?

      1.   Strongly disagree
      2.   Disagree
      3.   Neither disagree nor agree
      4.   Agree
      5.   Strongly agree
      7.   Refused
      8.   Don't know

2.11 The pain caused by having a mammogram is bad enough to make you put off getting one.
      Would you say you disagree, agree, or neither disagree nor agree?

      1.   Strongly disagree
      2.   Disagree
      3.   Neither disagree nor agree
      4.   Agree
      5.   Strongly agree
      7.   Refused
      8.   Don't know

[IF UNDER 40, ASK THE NEXT 3 QUESTIONS]:

2.12   You are torn about whether you should or should not get a mammogram every one to two years once you have turned 40. Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

2.13   You have mixed feelings about whether you should or should not get a mammogram every one to two years once you have turned 40. Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

2.14   You have conflicting thoughts about whether you should or should not get a mammogram every one to two years once you have turned 40. Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

[IF AGE 40-49, ASK THE NEXT 3 QUESTIONS]:

2.15   You are torn about whether you should or should not get a mammogram every one to two years. Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

2.16   You have mixed feelings about whether you should or should not get a mammogram every one to two years. Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refuse
8.   Don't know

2.17   You have conflicting thoughts about whether you should or should not get a mammogram every one to two years.   Would you say you disagree, agree, or neither disagree nor agree?

1.   Strongly disagree
2.   Disagree
3.   Neither disagree nor agree
4.   Agree
5.   Strongly agree
7.   Refused
8.   Don't know

[IF AGE 50 OR OLDER, ASK THE NEXT 3 QUESTIONS]:

2.18 You are torn about whether you should or should not get a mammogram every year. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refused
8. Don't know

2.19 You have mixed feelings about whether you should or should not get a mammogram every year. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refuse
8. Don't know

2.20 You have conflicting thoughts about whether you should or should not get a mammogram every year. Would you say you disagree, agree, or neither disagree nor agree?

1. Strongly disagree
2. Disagree
3. Neither disagree nor agree
4. Agree
5. Strongly agree
7. Refused
8. Don't know

2.21 Overall, your attitude towards having a mammogram is **[Read choices 1-5 only.]**

1. Not at all favorable
2. Slightly favorable
3. Somewhat favorable
4. Very favorable
5. Extremely favorable
7. Refused   **8. Don't know**

Genetic Testing

The following questions are about breast cancer and genetic testing. Genes contain the biological information that is passed to you from your blood relatives. For example, genes affect the color of your hair and eyes, your height and weight and many other things about you.

3.1   Do you understand what genes are?

      1.   Yes
      2.   No
      7.   Refuse
      8.   Don't know

[IF YES, SKIP TO NEXT PAGE.]
[IF NO, SAY THE FOLLOWING:]   Much of who you are as a person, such as how you look, comes to you from your blood relatives. Your body stores this inherited information in genes, which contain messages from your relatives that help define who you are.

Medical researchers are finding genes that seem to affect a woman's chances of getting breast cancer. I want to know whether you have ever heard of the following genes related to getting breast cancer.

3.2   Have you ever heard of the BRCA1 gene?

      1.   Yes
      2.   No
      7.   Refuse
      8.   Don't know

3.3   Have you heard of the BRCA2 gene?

      1.   Yes
      2.   No
      7.   Refuse
      8.   Don't know

Women who have a BRCA1 or BRCA2 gene that has been changed, or mutated, have a much higher chance of getting breast cancer.

3.4   In your opinion, what is your chance that you might have a mutated BRCA1 or BRCA2 gene?

1.   Very unlikely
2.   Unlikely
3.   Moderate chance
4.   Likely
5.   Very likely
7.   Refuse
8.   Don't know

3.5   There are some new blood tests that may be able to tell if you have a mutated BRCA1 or BRCA2 gene, which if found would mean that you are likely to be at greater risk of getting breast cancer. If these tests were free, how interested would you be in having them done?

1.   Not at all interested
2.   Slightly interested
3.   Somewhat interested
4.   Interested
5.   Very interested
7.   Refuse   8.   Don't know

[IF "NOT AT ALL INTERESTED", SKIP TO Q3.7.]

3.6   How much money would you be willing to pay out of your own pocket to have this test done?

[RECORD VERBATIM]: $_____

3.7   What would be your main reason for having this test?

[RECORD VERBATIM]:   _____

Risk Perceptions

The next two questions relate to your thoughts about your risk of getting breast cancer, compared to different groups of women who are your age and African-American.

4.1   Compared to other African-American women your age who do **not** have a family history of breast cancer, what do you think is your chance of getting breast cancer in your lifetime?
Would you say ... **[Read choices 1-5 only.]**

1.   Much lower
2.   Somewhat lower
3.   About the same
4.   Somewhat higher
5.   Much higher
7.   **Refuse**   8.   **Don't know**

4.2   Compared to other African-American women your age who **do** have a family history of breast cancer, what do you think is your chance of getting breast cancer in your lifetime?
Would you say ... **[Read choices 1-5 only.]**

1.   Much lower
2.   Somewhat lower
3.   About the same
4.   Somewhat higher
5.   Much higher
7.   **Refuse**
8.   **Don't know**

For the next question, I'd like you to think of your own risk of getting breast cancer, **without** comparing yourself to other women.

4.3   What do you think is your chance of getting breast cancer in your lifetime?
Would you say ... **[Read choices 1-5 only.]**

1.   Very unlikely
2.   Unlikely
3.   Moderate chance
4.   Likely
5.   Very likely
7.   **Refused**   8.   **Don't know**

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4.4   How concerned are you about getting breast cancer?
Would you say ...**[Read choices 1-5 only.]**

    1.   Not at all concerned
    2.   Slightly concerned
    3.   Somewhat concerned
    4.   Concerned
    5.   Very concerned
    7.   **Refuse**
    8.   **Don't know**

4.5   Please tell me which of the following statements you agree with **MOST:**

    1.   You have no control at all over whether you get breast cancer.
    2.   You have a little bit of control over whether you get breast cancer.
    3.   You have a moderate amount of control over whether you get breast cancer.
    4.   You have a lot of control over whether you get breast cancer.
    5.   You have complete control over whether you get breast cancer.
    7.   **Refuse**
    8.   **Don't know**

FAMILY HISTORY

5.1   Next I'd like to ask you about family history of breast cancer. Has your mother or any of your sisters or daughters ever been diagnosed with breast cancer?

    1.   Yes
    2.   No
    7.   **Refuse**
    8.   **Don't know**

[If YES, continue with the next questions; otherwise skip to Q6.1]:

5.2   How did the fact that your relative was diagnosed with breast cancer affect your opinion about your own chances of getting breast cancer? Would you say ...

    1.   It made you feel that your chances were lower
    2.   It didn't change your feelings about your chances
    3.   It made you feel that your chances were a little bit higher
    4.   It made you feel that your chances were much higher
    7.   **Refuse**
    8.   **Don't know**

5.3   The next few questions are to get your impression of how you feel your relative with breast cancer is coping with the disease. Overall, how would you describe her physical health right now?

    1.   Poor
    2.   Fair
    3.   Good
    4.   Excellent
    7.   **Refuse**
    8.   **Don't know**

5.4   Have you seen or talked to your relative with breast cancer in the last month?

    1.   Yes
    2.   No
    7.   **Refuse**
    8.   **Don't know**

[IF YES, GO TO NEXT QUESTIONS; OTHERWISE, GO TO Q6.1]:

The next items describe how women who have (or have had) breast cancer may feel. Based on your opinion, please tell me how often your family member who has had breast cancer has felt these emotions within the last month.

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5.5   In the last month, how much has she been feeling fearful?

1.   Not at all
2.   A little bit
3.   Somewhat
4.   Quite a bit
5.   A great deal
7.   Refuse
8.   Don't know

5.6   In the last month, how much has she been worrying or stewing about things?

1.   Not at all
2.   A little bit
3.   Somewhat
4.   Quite a bit
5.   A great deal
7.   Refuse
8.   Don't know

5.7   In the last month, how much has she been feeling nervous or shaky inside?

1.   Not at all
2.   A little bit
3.   Somewhat
4.   Quite a bit
5.   A great deal
7.   Refuse
8.   Don't know

5.8   In the last month, how much has she been feeling tense or keyed up?

1.   Not at all
2.   A little bit
3.   Somewhat
4.   Quite a bit
5.   A great deal
7.   Refuse
8.   Don't know

5.9   In the last month, how much has she been emotionally upset?

     1.   Not at all
     2.   A little bit
     3.   Somewhat
     4.   Quite a bit
     5.   A great deal
     7.   **Refuse**
     8.   **Don't know**

5.10   In the last month, how much has she been feeling blue?

     1.   Not at all
     2.   A little bit
     3.   Somewhat
     4.   Quite a bit
     5.   A great deal
     7.   **Refuse**
     8.   **Don't know**

5.11   In the last month, how much has she been feeling depressed?

     1.   Not at all
     2.   A little bit
     3.   Somewhat
     4.   Quite a bit
     5.   A great deal
     7.   **Refuse**
     8.   **Don't know**

5.12   In the last month, how much has she been feeling lonely?

     1.   Not at all
     2.   A little bit
     3.   Somewhat
     4.   Quite a bit
     5.   A great deal
     7.   **Refuse**
     8.   **Don't know**

5.13   In the last month, how much has she been feeling no interest in things?

      1.   Not at all
      2.   A little bit
      3.   Somewhat
      4.   Quite a bit
      5.   A great deal
      7.   **Refuse**
      8.   **Don't know**

5.14   In the last month, how much has she been feeling hopeless about the future?

      1.   Not at all
      2.   A little bit
      3.   Somewhat
      4.   Quite a bit
      5.   A great deal
      7.   **Refuse**
      8.   **Don't know**

Psychological Well-being

The following questions are about how **you** have been feeling within the last month. For each question, please give the one answer that comes CLOSEST to the way you have been feeling within the last month. I will repeat the choices if you would like me to.

Within the last month, how much of the time were you ...

6.1   A very nervous person? Would you say ... **[Read choices 1-5 only.]**

      1.   None of the time
      2.   A little bit of the time
      3.   About half the time
      4.   Most of the time
      5.   All of the time
      7.   **Refused**
      8.   **Don't know**

Within the last month, how much of the time were you...

6.2 So down in the dumps that nothing could cheer you up?
Would you say ... **[Read choices 1-5 only.]**

    1.   None of the time
    2.   A little bit of the time
    3.   About half the time
    4.   Most of the time
    5.   All of the time
    7.   Refused
    8.   Don't know

Within the last month, how much of the time were you ...

6.3 Calm and peaceful?
Would you say ... **[Read choices 1-5 only.]**

    1.   None of the time
    2.   A little bit of the time
    3.   About half the time
    4.   Most of the time
    5.   All of the time
    7.   Refused
    8.   Don't know

Within the last month, how much of the time were you...
6.4 Downhearted and blue?
Would you say ... **[Read choices 1-5 only.]**

    1.   None of the time
    2.   A little bit of the time
    3.   About half the time
    4.   Most of the time
    5.   All of the time
    7.   Refused
    8.   Don't know

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Within the last month, how much of the time were you...

6.5 A happy person?
Would you say ... **[Read choices 1-5 only.]**

1. None of the time
2. A little bit of the time
3. About half the time
4. Most of the time
5. All of the time
7. Refused
8. Don't know

Demographics

That's all the questions I have, except I just need to make sure we have your correct address so we can mail your check to you.

7.1a Do you still live at *(read current address)*?

1=Yes   2=No   **7=Refuse**   **8=Don't know**

If No , Refused, Don't know ➜ 7.1b

7.1b What is your current address?

Street address/Apt #/PO Box_____
City_____ State_____ Zip_____

Thank you very much for your time and help with our project. The information that you've given us is very valuable, and hopefully will help women in the future to make informed decisions about their own health care. If you have any questions about the project, please call Jenny Terrenoire or Dr. Lipkus at 956-5644. Thank you again for your time.

8.1 Comments:

Total Interview Time: ___.___ minutes

Appendix E
Algorithm used to Stage Women into Mammography Stages of Change

Definitions of Stages

This project uses the National Cancer Institute's mammography screening guidelines: a screening mammogram every 1-2 years for women aged 50 and over.

PreContemplation   NEVER had a mammogram and IS NOT thinking (or planning) on having one

Relapse   HAD 1 or more mammograms, recent mammogram is off schedule, and IS NOT thinking (or planning) on having another one

Relapse Risk   HAD 1 mammogram, is on schedule, and IS NOT thinking (or planning) on having another one
(If happens to have an appt., then **Action**)

OR

HAD 1 mammogram, is on schedule, and IS thinking but NOT planning on having another one
(If happens to have an appt., then **Action**)

OR

HAD 2 or more mammograms, only recent is on schedule, and IS NOT thinking (or planning) on having another one
(If happens to have an appt., then **Action**)

OR

HAD 2 or more mammograms, only recent is on schedule, and IS thinking but NOT planning on having another one
(If happens to have an appt., then **Action**)

OR

Had 2 or more mammograms, recent and prior mammograms are on schedule, and IS NOT thinking (or planning) on having another one
(If happens to have an appt., then **Maintenance**)

<div style="text-align: center;">OR</div>

Had 2 or more mammograms, recent and prior mammograms are on schedule, and IS thinking but NOT planning on having another one
(If happens to have an appt., then **Maintenance**)

Contemplation   NEVER had a mammogram and IS thinking (or planning) on having one
(If happens to have an appt., then **Preparation**)

<div style="text-align: center;">OR</div>

HAD 1 or more mammograms, recent mammogram is off schedule, and IS thinking (or planning) on having another one
(If happens to have an appt., then **Preparation**)

Action   HAD 1 mammogram, is on schedule, and IS thinking AND planning on having another one

<div style="text-align: center;">OR</div>

HAD 2 or more mammograms, only recent mammogram is on schedule, and IS thinking AND planning on having another one

Maintenance   HAD 2 or more mammograms, recent and prior mammograms are on schedule, and IS thinking AND planning on having another one

NOTES:

Recent mammogram is on schedule:
Date of recent mammogram is ≤ 24 months ago (Stage24) or ≤ 12 months ago (Stage12)

Recent and Prior mammograms are on schedule:
Date of recent mammogram is ≤ 24 months ago AND date of prior mammogram is ≤ 24 months from date of recent mammogram (Stage24)
OR
Date of recent mammogram is ≤ 12 months ago AND date of prior mammogram is ≤ 12 months from date of recent mammogram (Stage12)